**Student Attributes for Math Success (SAMS) Project, Part II**

A core working group from the team that participated in the February 2011 Dana Center visit met on May 20, 2011 to develop further plans for a sequel to the [2009-10 SAMS project](http://transitionmathproject.org/college-spark/index.asp). The work session had four major agenda items, numbered and highlighted in gray below; each section includes decisions about next steps we made with regard to the item as well as additional key comments/notes that were part of the group discussion.

1. **Modify, refine and clarify CRS attributes list in light of “critical elements from AYD” and “other psychosocial themes/issues” lists; prioritize list in terms of how essential topics are to student success in precollege math classroom**

Next Steps:

There was much discussion of the merits of developing classroom materials without having an updated conceptual/theoretical framework for the attributes. Many present believe the current attributes, along with practitioner experience, provide enough of a framework to proceed. We decided to delay pursuing this work with the entire group, opting instead to have our *Researcher* group (Bill, Helen, Mickey, Robin, perhaps Joanne Munroe if she’s interested) move ahead with developing succinct conceptual briefs around core areas (building from the attributes list and the [Fong & Asera white paper](http://www.carnegiefoundation.org/elibrary/psychosocial-theories-inform-new-generation-student-support-structures-learning-mathematics) produced for [Carnegie’s Statway project](http://www.carnegiefoundation.org/statway)) that can inform and be linked to the “high-leverage” practices work led by the *Practitioners* group (described below). At the group’s request, Mickey presented an overview of his ideas for the conceptual framework (see below).

Other Notes:

* Make sure we stay connected to Statway to share progress on defining and promoting attributes
* Seeing learning as participation and activity is fundamental to capacity for addressing these issues
* Address attributes as cultural and environmental, not solely “student attributes”
* Importance of developing new narrative about identity as learner in mathematics
* Domain-specific beliefs about intelligence, ability
* Attributions around observations of individual differences
* Changing messaging to students in order to influence attributions, theories, focusing on fresh start in mathematics
* Recognizing “teachable moments” based on student comments/observations
* Teacher revealing process of thinking, not simply finished packaged products of their thinking
* Other resources to consider:
  + On Course, Skip Downing
  + research on student understandings of “mathematical competence”
  + [James Gross](https://www.stanford.edu/dept/psychology/cgi-bin/drupalm/jgross) re emotion regulation (vis a vis self-regulated learning—[Barry Zimmerman](http://web.gc.cuny.edu/content/edpsychology/Zimmerman/index.htm))
* Core areas/themes to consider (Mickey Davis):
  + Safety: (encouraging risk-taking)
    - Identity
    - Re-framing narratives, beliefs about math, competence, knowledge
  + Multiple ways of demonstrating competence within mathematics
  + Meta-cognition (especially self-regulated learning (and emotion regulation)

1. **Share current practices and approaches around promoting these attributes or addressing these issues in order to** 
   1. **Articulate more clearly what this work looks like embedded in classroom learning environments and classroom practice**
   2. **Identify “high-leverage” settings and practices that we believe to offer the most potential for this work (e.g., complex tasks, metacognitive approaches like error analyses, promoting “college knowledge,” increasing student self-regulation, etc.**

Next Steps:

We created a *Practitioner* group consisting (at least initially) of three working pairs: Peg Balachowski and Megan Luce (first meeting: TBA); Heidi Ypma and Mike Nevins (first meeting: June 3rd); and Eleni Palmisano and Carren Walker (first meeting: May 27th). These pairs have agreed to work this summer to develop (**by mid-August**) some prototypes for concrete activities/lessons promoting specific key attributes that can be embedded in instruction around core mathematical content/concepts and incorporated into precollege math classes. These prototypes would be reviewed and refined at the RPM Summer Institute (August 22-26) and then pilot-tested next year (preferably next fall?). While there was some discussion about the possibility of working on specific strategies related to error analysis, test/math anxiety, responsibility-taking and goal-setting, and “productive struggle,” the group decided that each pair will choose its own specific focus with the group as a whole coordinating efforts to minimize duplication. Peg has volunteered to coordinate and lead this group, and along with Megan will be lead “editorial staff” for the work over the summer.

Other Notes:

* Central goals of project:
  + Develop practical tools for faculty to promote and facilitate these attributes in their classrooms
  + Help faculty understand their own shared responsibility in creating conditions that develop these attributes
* Resource materials eventually need to involve explicit framework & scaffolding not just for students but for faculty as well (and include conceptual rationale, theoretical basis)
* In developing materials maintain focus on core goals of RPM project (increasing student engagement & improving mathematical understanding)

1. **Explore ideas related to implementing and scaling this work on voluntary basis across the system**

Next Steps:

The group decided to table this discussion until the RPM Institute in the context of reviewing the prototypes and deciding how to proceed from them.

Other Notes:

* Develop/design infrastructure for faculty to access/use resources
* Clarify rationale, reasons for why we believe these things will work
* Need creative incentives and explicit opportunities to be involved
* Help faculty make the connection to their own personal theories of learning, practice

1. **Plan next steps for project including**
2. **Developing white paper/s as background resources**
3. **Connecting effort to working groups for system precollege education initiative**
4. **Convening or consulting with broader review team to respond to draft of work**
5. **Incorporating into August RPM event to finalize engagement process with faculty teams during 2011-12**

Next Steps:

1. The *Researcher* group will develop digestible and accessible resources related to underlying theoretical framework and rationale for core elements
2. The *Practitioner* group needs to determine what the prototypes will look like: a consistent format, specific information to be included, etc. (see table below for simple starting point for that effort)
3. Explore and experiment with web tools to use for collaboration in the work groups, including
   1. [Diigo](http://www.diigo.com/) (Robin has created a Diigo group already “Student Attributes for Math Success” that may wind up being more useful for the Researcher subgroup to bookmark and share resources);
   2. [WAMAP](http://www.wamap.org) as a possible repository and collaborative working space (Michael Nevins will explore the feasibility of this option for us, using the Seattle Central Self-Regulated Learning course on WAMAP as a prototype);
   3. [TitanPad](http://titanpad.com/) as a way of working together, even in real time, on the same document.
4. Define ways to capture and document the implementation processes involved with pilot-testing the resources (process, challenges, teacher reflections, …)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Team Assigned | Attribute/ Domain | Activity | Mathematical Content | Sequencing (timing in quarter) |
|  |  |  |  |  |
|  |  |  |  |  |